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09/893,441	06/29/2001	Henrik F. Bernheim	HAR66 824	6370

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EXAMINER	
MURPHY, RHONDA L	
ART UNIT	PAPER NUMBER
2667	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/893,441	Applicant(s) BERNHEIM ET AL.	
	Examiner Rhonda Murphy	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,18-31,38-44 and 59-62* is/are rejected.

7)☒ Claim(s) *17,32-37 and 45-58* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/23/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because of a typographical error in Figure 5. Reference numeral "484" in Sector 3 shall be designated "483", according to line 2, page 25 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2 and 16 are objected to because of the following informalities: In claim 2, the term "either" on line 8 shall be removed. In claim 16, the term "the hub" is

referenced. However, Examiner is questioning whether "the hub" shall be "the second hub", which comprises the second redundant communication link interface. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 8, 25, 26, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen et al. (US 5,748,611).

Regarding claims 1, 25 and 38, Allen teaches a hub (Fig. 1, E) comprising: an interface to the first computer network (the interface connection is inherent at hub E for connection to the first computer network 113); a plurality of primary communication link interfaces (the primary link interfaces are inherent at hub E for connection to nodes A and D, see Fig. 1); and a plurality of redundant communication link interfaces (the redundant link interfaces are inherent at hub E for connecting the redundant links shown as link 121); and providing a plurality of nodes (nodes A and D) geographically spaced apart from the hub, each one of said nodes comprising: an interface to at least one of the other computer networks (an interface is inherent at node A and D for connection to computer network 111 and 114, respectively); and a remote communication link interface (the interface is inherent for the link connecting nodes A and D to hub E);

establishing, for each node, at least one primary communication link between the remote communication link interface at the node and at least one of the plurality of primary communication link interfaces at the hub (the primary link is represented by parallel link 120, illustrated in Fig. 1, between node A and hub E, and between node D and hub E; col. 5, lines 6-17); and establishing, for each node, at least one redundant communication link between the remote communication link interface at the node and at least one of the plurality of redundant communication link interfaces at the hub (the redundant link is represented by parallel link 121, illustrated in Fig. 1, between node A and hub E, and between node D and hub E; col. 5, lines 6-17) .

Regarding claim 8, Allen teaches at least one of the primary communication link interfaces providing a substantially independent primary communication link to each of at least two nodes (Fig. 1; primary link 120, which inherently has a primary link interface, connects hub E to node A and hub E to node D. Thus, providing an independent primary link to each node).

Regarding claims 26 and 39, Allen teaches the number of primary communication link interfaces equaling the number of redundant communication link interfaces (see Fig. 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 3, 10, 11, 16, 18-20, 23, 27-30, 40-43, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (US 5,748,611).

Regarding claim 2, Allen teaches the limitations described above in the rejection of claim 1. Although Allen does not teach a second hub and second plurality of nodes, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify Allen's system to include a second hub and second plurality of nodes similar in structure and operation, for the purpose of providing a second communication system capable of functioning in a similar manner and covering a wider service area.

Regarding claim 3, Allen teaches a broadband communication network (col. 4, lines 41-46) comprising a hub, nodes and computer networks. The computer networks are capable of transmitting data in bursts. Allen does not disclose the computer networks as being a part of a wireless communication system transmitting data in burst.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate Allen's broadband communication network into a broadband wireless communication network, for the purpose of transmitting data wirelessly throughout a network.

Regarding claims 10, 11, 28, 29, 41 and 42, Allen teaches a plurality of primary communication link interfaces and redundant communication link interfaces. Allen does not explicitly disclose the primary and redundant communication link interfaces being operatively connected to a first and second communication processor, respectively.

However, it would be obvious to have a connection to a communication processor in order to effectively transmit data from its source to its destination.

Regarding claim 16, Allen teaches the communication system of claim 11 above. Additionally, it would have been obvious to one skilled in the art to include a second redundant communication link interface at the hub wherein the second redundant communication link interface is operatively connected to a second communication processor, in order to effectively transmit data from its source to its destination.

Regarding claims 18 - 20, Allen teaches the communication system comprising processors. Allen fails to teach the processors as modems capable of having multiple ports and capable of transmitting and receiving data at multiple levels of information density.

However, it is well known in the art that modems are utilized as communication processors for the purpose of modulating data into a form suitable for transmission. Thus, it would have been obvious to one skilled in the art to include such modems into Allen's system.

Regarding claims 23 and 61, Allen teaches a communication system comprising a computer network, but does not clearly state a computer network as a router. However, the computer network illustrated in Figure 1, suggests a router (111) for the purpose of connecting and routing data throughout the network.

Regarding claims 27 and 40, Allen teaches a plurality of primary communication link interfaces. Although Allen does not clearly state the primary link interfaces are connected to a communication processor, it would have been obvious to have the

primary link interfaces operatively connected to a unique one of a plurality of communication processors, in order to effectively transmit data from its source to its destination.

Regarding claim 30 and 43, Allen teaches primary and redundant communication link interfaces. It is known in the art that the number of primary communication link interfaces and the number of redundant communication link interfaces do not have to equal. Therefore, the number of primary communication link interfaces can be greater than the number of redundant communication link interfaces, which would allow the redundant link interface to handle traffic consistent with its bandwidth capacity.

7. Claims 4 – 7, 22 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen, in view of Stanwood et al. (US 6,731,946).

Regarding claims 4 and 5, Allen teaches a broadband communication system comprising primary communication links. Allen fails to disclose a primary communication link as being adaptive time division duplexed in the millimeter frequency range.

However, Stanwood teaches a broadband wireless communication system comprising primary links being adaptive time division duplexed and dynamically adjustable as a function of forward and reverse data traffic (col. 29, lines 7-16; an adaptive TDD system dynamically adjusts the number of time slots allocated to uplink and downlink times), in the millimeter frequency range (col. 9, lines 4-6; a system that transmits user data within the millimeter band at frequencies of approximately 28GHz).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate dynamically adjustable adaptive TDD in the millimeter frequency range, so as to provide the most efficient transfer of user data.

Regarding claims 6 and 7, the combined system of Allen and Stanwood teach the claimed limitations described in claims 4 and 5. Additionally, Allen teaches a system having redundant communication links. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to modify the combined system of Allen and Stanwood, to include a redundant communication link that is adaptive time division duplexed in the millimeter range and dynamically adjustable, so as to provide the most efficient transfer of user data.

Regarding claims 22 and 60, Allen teaches a communication system comprising computer networks. Allen fails to teach a computer network as a private branch exchange.

However, Stanwood teaches a PBX (col. 27, lines 51-53). In view of this, it would have been obvious to one having ordinary skill in the art at the time the invention was made, incorporate a PBX into Allen's network, for the purpose of connecting to a private telephone system.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen, in view of Cinkler (US 6,628,618).

Regarding claim 9, Allen teaches a communication system with primary and redundant communication links. Allen fails to teach these links having the same capacity.

However, Cinkler teaches the traffic capacity of a secondary path equaling the traffic capacity of its primary path (col. 7, lines 29-33). Therefore, the secondary path interface and primary path interface share the same capacity as well.

In view of this, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to provide equal capacity redundant and primary link interfaces, in order for the redundant link to sufficiently handle the data normally transmitted on the primary link.

9. Claim 12 – 15, 31 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen in view of Kay et al. (US 2004/0246891).

Regarding claim 12, 31 and 44, Allen teaches primary and redundant link interfaces. Allen fails to teach the primary and redundant sector service areas.

However, Kay teaches a primary link interface associated with a primary sector of a service area (Fig. 1; page 3, paragraph 64 and 65; link 118 is associated with sector 116). Since Allen teaches both primary and redundant link interfaces and Kay teaches primary sectors, it would have been obvious to one skilled in the art to combine Allen and Kay's teachings, so as to provide both a primary sector service area and a redundant sector service area.

Regarding claim 13, the combined system of Allen and Kay teach primary and redundant sector service areas. Allen further teaches primary and redundant communication links in parallel to one another (col. 1, lines 28-30). Thus, it would be obvious for a redundant sector to be substantially coextensive with one or more of the

primary sectors, since the redundant sector is in proximity to the primary sector, in order to handle data normally transmitted by the primary links during a failure.

Regarding claim 14, Allen teaches primary and redundant link interfaces. Allen fails to teach radio module interfaces.

However, Kay teaches radio module link interfaces (Fig. 1, element 112). In view of this, it would have been obvious to one having ordinary skill in the art, to include primary and redundant link radio module interfaces, for the purpose of wirelessly transmitting data between devices.

Regarding claim 15, the combined system of Allen and Kay teach radio modules interfaces. Kay further teaches radio modules adapted to facilitate rapid field replacement (page 6, paragraph 84; multiple modulation modes are advantageous in the microwave range, as channels in the range tend to rapidly degrade with distance during rain fades). Thus, it would have been obvious for the radio modules to adapt under such conditions, in order to efficiently transmit data on the air interface while maintaining signal integrity.

10. Claims 21, 24, 59, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen, in view of Feder et al. (US 6,512,754).

Regarding claims 21 and 59, Allen teaches a communication system comprising computer networks. Allen fails to teach a public switched telephone network.

However, Feder teaches a public switched telephone network (Fig. 1; col. 1, lines 23-25). In view of this, it would have been obvious to one having ordinary skill in the art

at the time the invention was made, to incorporate a PSTN into Allen's network, for the purpose of providing a telephone network.

Regarding claims 24 and 62, Allen teaches a communication system comprising computer networks. Allen fails to teach a computer network as the Internet.

However, Feder teaches an Internet (Fig. 2; col. 6, lines 7-10). In view of this, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to incorporate the Internet into Allen's network, for the purpose of providing access to a worldwide network of computer networks.

Allowable Subject Matter

11. Claims 17, 32-37 and 45-58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Vaudreuil (US 5,872,779) discloses a system and method for private addressing plans using community addressing.

*Daniel (US 6,640,101) discloses a remote transmission testing and monitoring to a cell site in a cellular communications network.

*Khouri et al. (US 6,072,806) discloses a message-based communication system.

*Schmutz et al. (US 6,748,212) discloses a method and apparatus for backhaul link diagnostic in a wireless repeater system.

*Shah et al. (US 6,418,117) discloses out of band messaging in a DRA network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy
Examiner
Art Unit 2667

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